

Application No. 10/634,474
Docket No. 1999U026.US-CON2
Reply to Office Action Dated October 28, 2004

Remarks

Claim Amendments

Claims 2, 4, and 7 are herein cancelled without prejudice, and certain claim limitations therein incorporated into the Claim 1. Claim 17 is herein cancelled as superfluous in light of Claim 20.

Claims 1 and 20 are currently amended, the amendments finding support in the claims and specification as filed.

In particular, ~~gas phase~~ can be found at, for example, original Claim 7 and the working examples.

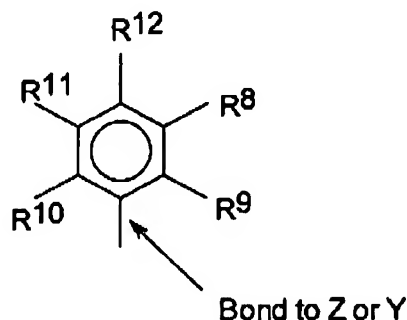
The phrase ~~comprising a zirconium~~ modifies the term "bulky ligand metallocene" and derives from the specification as filed for example at the working examples showing gas phase process using the combined catalyst as claimed. The claim should now be understood to mean that the "bulky ligand metallocene", which comprises a metal center having at least one cyclopentadienyl group bound thereto, is a zirconium also having at least one leaving group bound thereto. See paragraph [0045] for a description in the specification as filed.

To further define "M" of the formula in Claim 1, the phrase "a Group 4, 5 or 6 metal" is replaced with ~~zirconium~~. This is also derived from the working examples as discussed in the prior response showing unexpected results for this class of compounds.

Further in Claim 1, the phrase ~~Y and Z are each nitrogen atoms~~ is added to replace the phrases: "is a Group 15 or 16 element; Y is a Group 15 element; Z is a Group 15 element;", this claim derived from the specification at, for example, paragraphs [0024] and [0025].

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Finally in Claim 1, the phrase "independently an alkyl group, an aryl group, substituted aryl group, a cyclic alkyl group, a substituted cyclic alkyl group, a cyclic arylalkyl group, a substituted cyclic arylalkyl group or multiple ring system; wherein R^4 and R^5 may be interconnected directly to each other" is replaced with the phrase, derived from Claim 2, —represented by the formula



wherein R^8 to R^{12} are each independently hydrogen, a C_1 to C_{40} alkyl group, a halide, a heteroatom, or a heteroatom containing group containing up to 40 carbon atoms—

Claim 20 is amended to delete now superfluous language in light of the amendments to Claim 1.

No new matter is believed to be added.

Section 103 Rejections

The Examiner maintains the rejection of Claims 1 through 22 under 35 U.S.C. § 103(a) as obvious over *Sugimura* in view of any of *Liang*, *McConville* and *Schrock*. The Applicant traverses these rejections by amending the Claim 1 so that it is commensurate in scope with the Applicant's showing of unexpected results.

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Sugimura does not particularly disclose Applicant's claimed invention, in particular, the claimed combination of a zirconocene with the Group 15 containing metal compound as now claimed. Most of the transition metal—amide compounds particularly disclosed in *Sugimura* are titanium based compounds; none of those particularly disclosed are three-coordinate with respect to a nitrogen-containing ligand.

The Applicant's submission of the references in the previous response demonstrates the unexpected nature of these arts, and in particular, that the Applicant's particularly claimed invention is not disclosed. Evan *Liang et al.* does not disclose a discernable trend of molecular weight control (and hence, Mw/Mn control) when comparing runs of the same "equiv", for example, no.s 4 and 12, and no.s 6 and 7, wherein the initial temperature was different between the two runs by 20°C.

Further, *Sugimura* shows not trend whatsoever in terms of how one would control the molecular weight of the resultant polymer by changing the temperature. No experiments were done at varying reaction temperatures in that references, nor the use of a gas phase process. All examples were very short term reactions at a single temperature using cyclohexane liquid phase. At best, *Sugimura* is only an invitation to experiment, not a teaching.

As stated previously by both the Applicant and Examiner, if "the technology is unpredictable, it is less likely that structurally similar species will render a claimed species obvious because it may not be reasonable to infer that they would share similar properties." MPEP § 2144.08(e) (Rev. 2. May 2004). Given the unpredictability in the catalyst arts, the Applicant contends that there is no disclosure in the prior art cited that would render as obvious the Applicant's claimed invention as now amended.

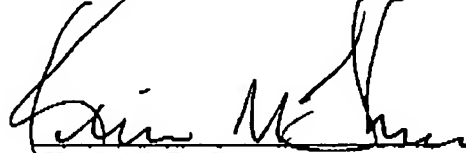
The Applicant thus requests the withdrawal of these rejections.

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It is submitted that the case is in condition for allowance. The Applicant invites the Examiner to telephone the undersigned attorney if there are any other issues outstanding which have not been presented to the Examiner's satisfaction.

November 4, 2004
Date

Respectfully submitted,



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